FIG.1

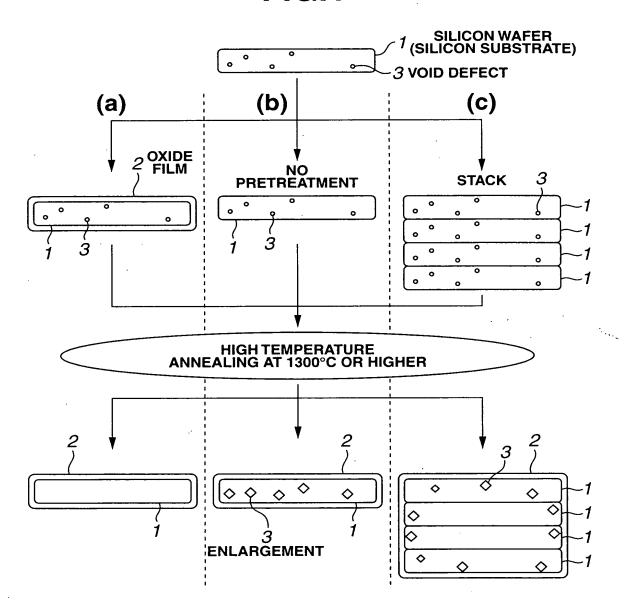


FIG.2

TREATMENT TEMPERATURE	OXYGE	N PARTIAL PRE IN ARGON GAS	SSURE
/TIME	0.5%	30%	100%
1300°C, 2 HOURS	×	×	
1350°C, 2 HOURS	×	×	×
1390°C, 2 HOURS	. ×	×	×

X: ENLARGEMENT

△: SHRINKAGE

○: DISAPPEARANCE

FIG.3

TREATMENT TEMPERATURE	OXYGE	N PARTIAL PRE IN ARGON GAS	SSURE
/TIME	0.5%	30%	100%
1300°C, 2 HOURS	0 .	Δ	Δ
1350°C, 2 HOURS	0	0	0
1390°C, 2 HOURS	0	0	0

X: ENLARGEMENT

△: SHRINKAGE

○: DISAPPEARANCE

TREATMENT			INITIA	L OXIDE FILM	INITIAL OXIDE FILM THICKNESS (nm)	(mm)	
TIME AIMOSPHERE	AIMOSPHERE	*0	45 nm	175 nm	396 nm	500 nm	աս 002
1350°C, 2 HOURS	0.5% O2/Ar	×	×	×	◁	0	0
1350°C, 2 HOURS	30% O2/Ar	×	×	×	×	0	0
1350°C, 2 HOURS	100% O2	×	×	×	×	0	0

*: NATURAL OXIDE FILM X: ENLARGEMENT △: SHRINKAGE ○: DISAPPEARANCE

FIG.5

OXIDE FILM THICKNESS	OXIDE FILM FORMATION METHOD	VOID DEFECTS
440	CVD	Δ
720	CVD	Δ
55	DRY OXIDATION	×
164	DRY OXIDATION	×
274	DRY OXIDATION	×
400	DRY OXIDATION	0
840	DRY OXIDATION	0
75	WET OXIDATION	×
159	WET OXIDATION	×
377	WET OXIDATION	×
720	WET OXIDATION	0

X: ENLARGEMENT

△: SHRINKAGE

○: DISAPPEARANCE

FIG.6

TREATMENT	OXYGE	N PARTIAL PRESSURE
TEMPERATURE /TIME	VOID DEFECTS	
1200°C, 2 HOURS	NO CHANGE	
1240°C, 2 HOURS	0	
1260°C, 2 HOURS	0	
1280°C, 2 HOURS	0	
1300°C, 2 HOURS	0	
1310°C, 2 HOURS	×	
1320°C, 2 HOURS	×	
1350°C, 2 HOURS	×	
1390°C, 2 HOURS	×	

X: ENLARGEMENT

△: SHRINKAGE

○: DISAPPEARANCE

FIG.7

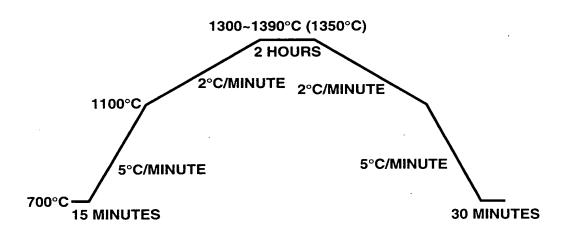
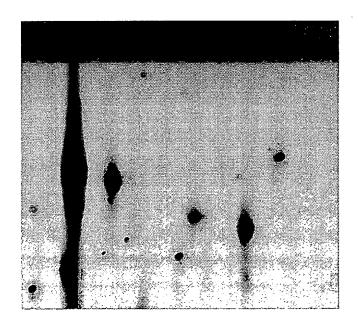
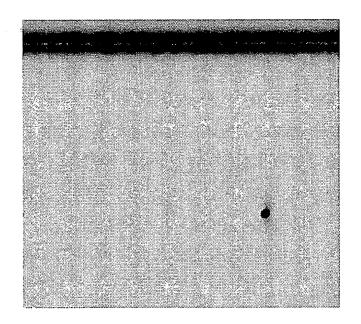


FIG.8



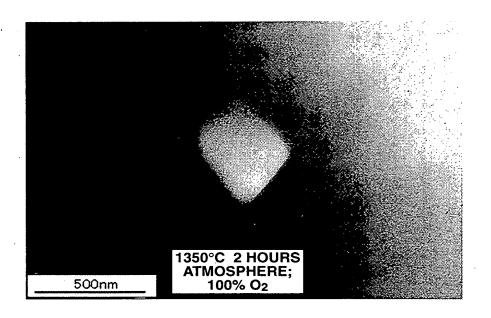
BEST AVAILABLE COPY

FIG.9



BEST AVAILABLE COPY

FIG.10



REST AVAILARIE COPY

FIG.11

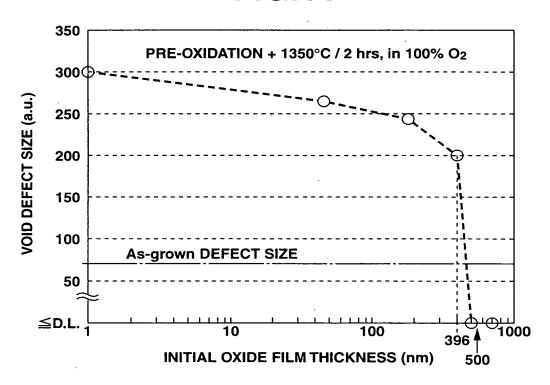


FIG.12

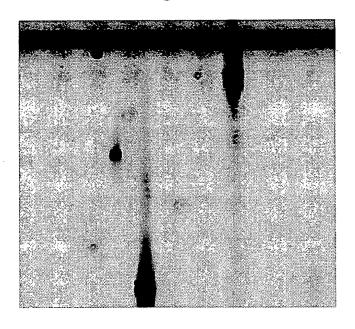


FIG.13

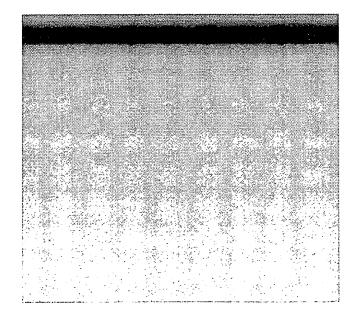


FIG.14

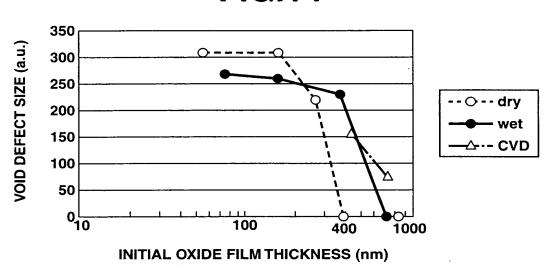


FIG.15

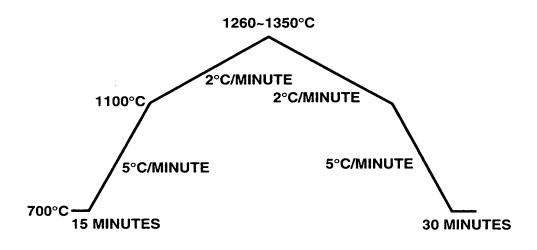


FIG.16

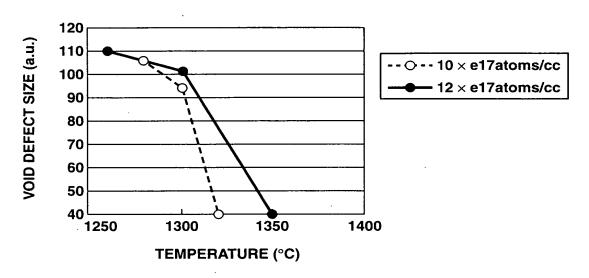


FIG.17

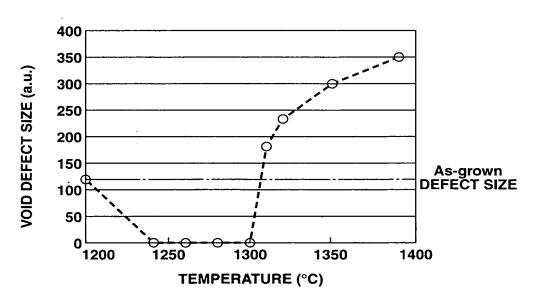


FIG.18

	INIT	IAL OXYGEN	CONCENTRAT	ΓΙΟΝ
TEMPEDATURE	10e17 (a	toms/cc)	15e17 (a	toms/cc)
TEMPERATURE	ATMOS DURING	PHERE HEATING	ATMOS DURING	PHERE HEATING
	0.5%	100%	0.5%	100%
1200°C	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE
1210°C	Δ	Δ	NO CHANGE	NO CHANGE
1220°C	Δ	Δ	NO CHANGE	NO CHANGE
1230°C	Δ	0	NO CHANGE	NO CHANGE
1240°C	0	0	NO CHANGE	NO CHANGE
1260°C	0	0	NO CHANGE	NO CHANGE
1280°C	0	0	NO CHANGE	NO CHANGE
1300°C	0	0	×	Δ
1310°C	×	0	×	0
1320°C	×	0	×	0
1330°C	×	0	×	0
1340°C	×	0	×	0
1350°C	×	0	×	0

 \times : ENLARGEMENT

△: SHRINKAGE

○: DISAPPEARANCE

FIG. 19

	OXX	GEN ATMO	SPHERE D	URING HE/	OXYGEN ATMOSPHERE DURING HEAT TREATMENT (INCLUDING HEATING)	ENT (INCLI	JDING HEA	TING)
TEMPERATURE	INITIAL	INITIAL OXYGEN CONCENTRATION: 10e17 atoms/cc	YGEN CONCENTR 10e17 atoms/cc	ATION:	INITIAL	INITIAL OXYGEN CONCENTRATION: 15e17 atoms/cc	YGEN CONCENTR 15e17 atoms/cc	ATION:
	25%	20%	75%	%001	72%	20%	75%	100%
1260°C	0	0	0	0	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE
1280°C	0	0	0	0	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE
1300°C	0	0	0	0	NO CHANGE	\triangle	\triangle	◁
1320°C	0	0	0	0	×	Δ	\triangle	0
1340°C	0	0	0	0	×	٠ .	\triangle	0
1350°C	0	0	0	0	×	abla	\triangle	0

FIG.20

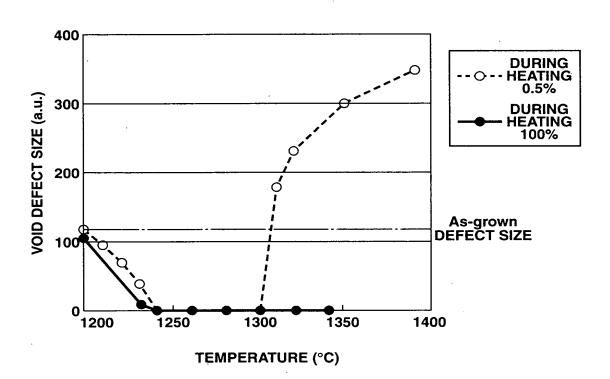


FIG.21

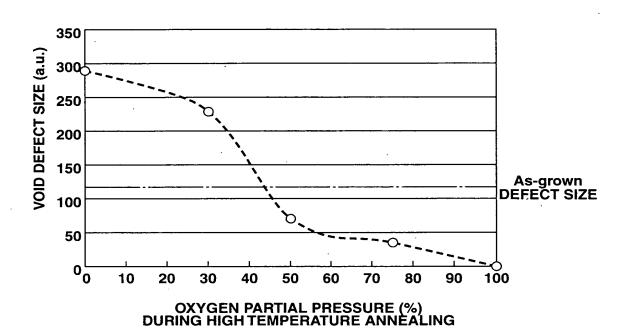


FIG.22

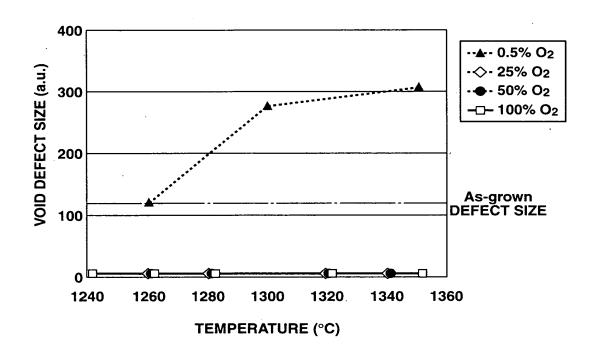


FIG.23

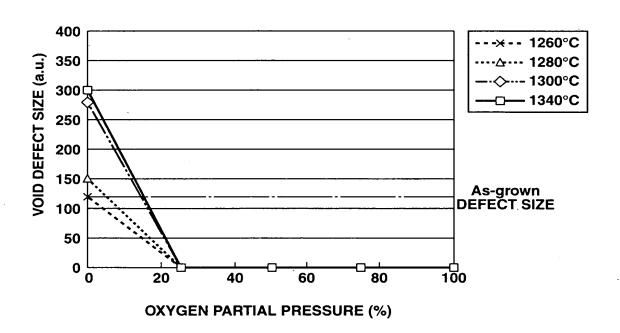


FIG.24

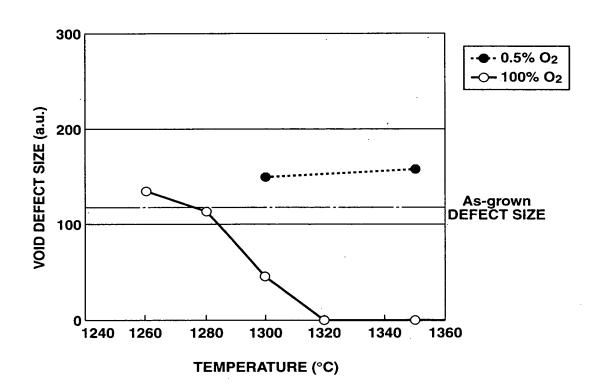


FIG.25

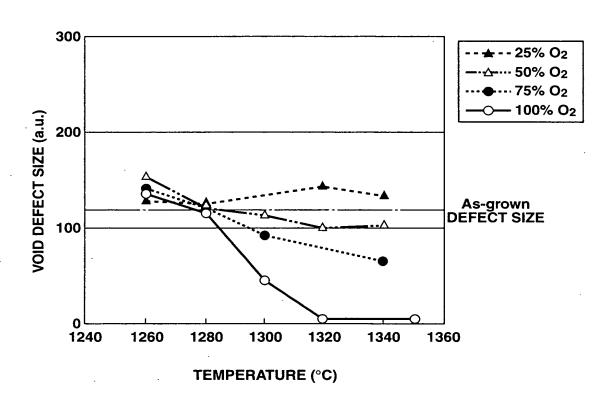


FIG.26

